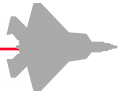


# **Modeling, Simulation and Analysis**

## **Focus Group 3 Outbrief**

**Team Leaders: MG Case and Dr Hellwig**

**Facilitator: Maj Woika**



**GOAL:** Examine MS&A needs, guidelines, and policy for acquisition and operations.



### Topics Addressed

- ♦ JMASS
- ♦ Training
- ♦ People
- ♦ Pedigreed Database
- ♦ Funding
- ♦ Technology
- ♦ Oversight

## Joint Modeling & Simulation System Background Information



- ♦ JMASS is a standard M&S architecture
- ♦ Engagement and mission-level analysis
  - ♦ Common design allows reuse, interoperability
  - ♦ Avoids duplication and stovepiped solutions
- ♦ JMASS models are built by domain experts
  - ♦ Repository of validated model plus data
  - ♦ Developed models stored in a “reuse library” (MSRL)
- ♦ Funding and advocacy from AF/TE and AF/XOM



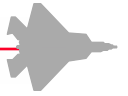
**Issue:** Should JMASS compliance be mandated?

### **Recommendations**

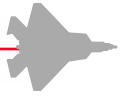
- ♦ JMASS compliance be required for new systems models where digital system models do not exist (SAF/AQR)
- ♦ Endorse joint direction for JMASS (AF/XOM)
- ♦ Existing JMASS steering group will (AF/XOM):
  - ♦ Determine policy and review compliance requirement
  - ♦ Establish policy for model library management

**OPR:** SAF/AQR and AF/XOM

## Training Background Information



- ♦ CSAF tasked XO to ensure AF meets future training philosophy and needs including:
  - ♦ Simulators, models, databases
  - ♦ Live, virtual, and constructive elements
- ♦ XOM is focus for Distributed Mission Training
  - ♦ Must develop a comprehensive training plan
  - ♦ Must be executable within resource constraints
- ♦ Key topics: ADS, Embedded Training (ET), level of fidelity, realism, resource constraints, system performance degradation



**Issue:** Should new weapon systems include embedded training capabilities?

**Recommendations:**

- ♦ Consider embedded training in systems development training plan

**OPR:** AF/XOM and SAF/AQR



**Issue:** Should new weapon systems include advanced distributed simulation (ADS) capabilities?

**Recommendations:**

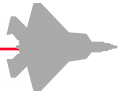
- ♦ Continue advanced concept testbeds (e.g. ACES)
- ♦ Address requirement for ADS early in system development
- ♦ Develop standards for advanced distributed systems (AF/XOM)
- ♦ If no significant cost penalty, program activities should be DIS/ADS compliant (including training simulators) (SAF/AQR)

**OPR:** SAF/AQR and AF/XOM





- ♦ M&S Career Field Does Not Exist
  - ♦ No APDP certification
  - ♦ No M&S AFSC
  - ♦ No specific M&S training, no requirements identified
- ♦ M&S not counted as Acquisition time
- ♦ Do we attract the best to “non-careers” in M&S?



**Issue:** Should there be an M&S AFSC?

**Recommendations**

- ♦ No new APDP stall, AFSC, or career path
- ♦ Establish SEI for M&S (AF/XOM, SAF/AQR)
- ♦ Investigate acquisition credit for M&S analysts (AF/XOM, SAF/AQR)
- ♦ Review training courses for M&S content and acceptability (SAF/AQR)

**OPR:** SAF/AQR and AF/XOM

## Pedigreed Database Background Information



- ♦ JAST established a Pedigree database
- ♦ Pedigreed Database demonstrates value
  - ♦ Aligned with goals of traceability and reuse
  - ♦ Infrastructure for MS&A
  - ♦ Supports standard legacy models & assumptions



**Issue:** Are pedigreed databases broadly applicable?

**Recommendation:**

- ♦ Pedigree concept warrants further consideration
- ♦ Encourage AFAMS to investigate JSF's methodology (AF/XOM)
- ♦ Encourage AF users to use AFAMS for initial M&S search entry point (SAF/AQR)

**OPR:** SAF/AQR and AF/XOM

## M&S Funding in Acquisition Background Information



- ♦ M&S spending is a tempting bogey
  - ♦ PBD 870 targeted “duplicative” M&S money
  - ♦ M&S unable to defend itself
    - ♦ M&S is integrated into the acquisition process
    - ♦ No PE, appropriation, cost element



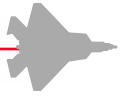
**Issue:** Should M&S funding in acquisition be captured?

### **Recommendations**

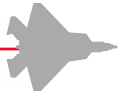
- ♦ Tracking of M&S funding in acquisition not recommended
- ♦ Not an AF unique problem (AF/XOM)
  - ♦ Work issues through EXCIMS (Acquisition Council)
- ♦ Focus on M&S efficiency (AF/XOM)
  - ♦ Encourage methods to reduce M&S duplication (e.g. AFAMS, JMASS, JSIMS, JWARS)

**OPR:** AF/XOM and SAF/AQR

## Science and Technology for AF M&S Background Information



- ♦ No established M&S technology needs process
  - ♦ ESC is evolving the Technical Planning IPT (TPIPT)
- ♦ AFMC/ST currently assessing M&S S&T investment



**Issue:** Should there be an S&T requirements process for M&S?

**Recommendation:**

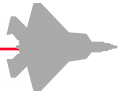
- ♦ Continue to identify enabling technologies (e.g. current ongoing studies) (SAF/AQR)
- ♦ Challenge the TPIPT to determine M&S S&T needs (AF/XOM)

**OPR:** SAF/AQR and AF/XOM





- ♦ Perception of uncoordinated M&S activities
  - ♦ CSAF vision for M&S
  - ♦ PBD 870 addresses duplication, excessive funding
- ♦ Need to define policy and lines of authority for Acquisition M&S
  - ♦ Advocacy
  - ♦ Funding



**Issue:** How to clarify and define AF corporate policies regarding M&S oversight.

**Recommendation**

- ♦ Strengthen the AF leverage of EXCIMS (AF/XOM)
- ♦ Make AF Simulation and Analysis WG (AFSAWG) work (AF/XOM)
- ♦ Conduct an XOM & AQ (MAD/PEO/AQR) review to capture totality of M&S in acquisition (SAF/AQR)
  - ♦ Consider expanding to other functions (TE, LG, etc.)

**OPR:** AF/XOM and SAF/AQR